

resellers cannot undercut the lowest wholesale price of their facilities-based competitors. It does not in any way suggest that resellers are unable to provide regional carriers with the opportunity to complete their networks, while remaining competitive with the wholesale rates of the national carriers out of region. We will take up the RBOC affiants' specific arguments concerning resale where they apply, but they certainly do not apply here.<sup>61</sup>

The RBOCs themselves address the competitive role of resale, arguing that AT&T discriminates against resellers, and citing two recent FCC decisions for support (pp. 25-26). This is an extraordinarily odd position for the RBOCs to take. In effect, they are arguing that AT&T is guilty of "discrimination and other anticompetitive practices" (p. 25), even though they assert elsewhere that existing regulation is an iron-clad guarantee against such abuses. More importantly, however, the evidence cited by the RBOCs' does not come even remotely close to supporting their claim. The first FCC decision (the PSE case) involved AT&T's requirement under Option 24 of Tariff 12 that potential customers (including resellers) provide adequate network information prior to AT&T's acceptance of their orders. We understand that AT&T has appealed this decision; such an informational requirement would seem to be an eminently reasonable business practice, and indeed, PSE is the only reseller ever to complain about it. The second decision (the notice of apparent liability) also involves unusual facts. AT&T is contesting this notice of apparent liability, and the dispute concerns whether the resellers in question ever actually placed a service order for the relevant service. The Commission did not find in either of these cases that AT&T discriminates against resellers generally, or fails generally to provide quality service to resellers at tariffed rates. Moreover, even if AT&T did undertake such actions, the affected reseller could always turn to MCI or Sprint.

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<sup>61</sup>Even though they are not usually careful enough to make the distinction, many of the RBOCs' affiants' arguments concerning resale relate to the competitive role of resale in the retail market, rather than in the wholesale market (see e.g. Hausman, p. 4). We will take these arguments up in the appropriate context.

We therefore conclude that the RBOCs have sponsored no new testimony that even addresses -- let alone undermines -- our original position concerning barriers to entry.<sup>62</sup> We see no coherent basis in the collective testimony for concluding that significant market power could be present in the market for wholesale long distance services.

While Hausman in particular does not come to grips with the substance of our arguments, his latest report does contain some general remarks concerning entry barriers.

First, he reiterates, without further evidence or factual support, his original assertion that the sunk costs of entry are "significant" (p. 2). Given the un rebutted evidence concerning the quantitative magnitude of fiber network costs, as well as the un rebutted opportunities to avoid sinking most of these costs in advance of entry via resale, it is hard to know what standard of significance Hausman has chosen to apply.

Second, Hausman argues (p. 3) that "the strategic behavior of the incumbent firms will deter entry if they can cause entrants to believe the incumbents can and will economically increase their output after entry occurs." Although this statement appears to contain a vague and unsubstantiated allusion to predation, this is evidently not what Hausman has in mind.<sup>63</sup> In particular, his argument (p. 3) is simply that "the new entrant will not be able to attract sufficient demand to recoup its sunk costs" (emphasis added), which he describes as a "billion dollar investment in the sunk fiber optic network." In other words, despite several confused references to strategic behavior, this passage does nothing more than reassert the significance of sunk costs, once again without coming to grips with the analysis of sunk costs

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<sup>62</sup>Taylor and Zona's reply affidavit contains the new assertion that the need to advertise on a national scale may create a sunk cost barrier to entry. Since national advertising does not appear to be a significant factor in the high-capacity wholesale market, we will take this argument up in the context of the retail market.

<sup>63</sup>The predation argument, if intended, is easily dismissed. Entry deterrence through the use of excess capacity has proven difficult to rationalize as a matter of theory (see Avinash Dixit, "The Role of Investment in Entry Deterrence," *Economic Journal* 90, 1980, pp. 95-106), and other RBOC affiants have explicitly disputed the applicability of predation in the context of long distance (see e.g. the affidavit of Milgrom and Roberts). Predation also becomes significantly less likely in the presence of multiple incumbents, since each incumbent has an incentive to "free ride" on the putative predatory activities of the other incumbents.

contained in our first report. Hausman is also clearly mistaken as a matter of empirical fact, since there is no evidence that, during the post-Decree period, any of the major IXCs has strategically reduced price with the intention or effect of driving out any new entrant, despite the fact that examples of entry have been plentiful.

Third, Hausman asserts that no facilities-based national carrier has entered the market since divestiture (p. 4). This is simply incorrect. According to FCC statistics, several existing facilities-based interexchange competitors, including MRC, TCG, and ValleyNet, deployed their first fiber facilities in 1987 or later. In addition, companies such as CTGI and WilTel have more than tripled the size of their fiber facilities since the Decree.<sup>64</sup>

Even if Hausman was correct about the record of entry in the post-Decree period (which he is not), this would not establish the existence of high entry barriers. In an industry where barriers to entry are low, there is no reason to believe that entry will continue past the point where rivalry among existing firms is sufficient to assure a competitive outcome. Moreover, regardless of whether large scale entry has occurred in the immediate past, the historical record, beginning with MCI and Sprint and running through the likes of WilTel, LDDS, and ALC/Allnet, demonstrates the principle that, in long distance, successful entry is most certainly feasible, and in many cases has been accomplished while minimizing (via resale) the up-front costs of network construction.

There is therefore no basis in any of the reply affidavits accompanying the RBOCs' most recent submission for overturning our conclusion that barriers to entry in general, and sunk costs in particular, do not significantly impair the competitive process in the market for bulk wholesale long distance services.

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<sup>64</sup>Jonathon M. Kraushaar, "Fiber Employment Update: End of Year 1994," Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission (July 1995), p. 7 (Table 1) ("Fiber Deployment Update 1994").

**b. Factors affecting competition among existing firms**

***Conclusion #38: Market conditions are conducive to intense competition between existing suppliers of bulk wholesale long distance services.***

In our first report, we pointed to a number of market conditions that are highly conducive to intense competition among existing suppliers of bulk wholesale long distance service.

(1) The number of competitors. There are numerous competitors, including four nationwide facilities-based carriers, several other carriers of national scope with significant facilities, and dozens of carriers with regional facilities (p. 130). As we noted, the number of long distance carriers purchasing equal access services in four or more states increased steadily from 23 in 1986 to 98 in 1993 (p. 132). Regional facilities-based carriers are particularly important in this market, since large customers often have significant regional telecommunications needs, as well as the sophistication required to piece together the regional services of different vendors. We also pointed out in our first report that the long distance market includes literally hundreds of pure resellers (p. 130). These facts are unchallenged.

The RBOCs' affiants simply dismiss, without any analysis, all regional carriers that lack nationwide facilities (see e.g. Hausman's reply affidavit, p. 4, cited above). They also write off all of the pure resellers on the grounds that these companies do not control their own facilities, and therefore cannot exercise *independent* pricing discipline. In doing so, they continue to demonstrate a failure to understand the competitive significance of resellers. To say that a pure reseller provides no *independent* check on the overall price level for bulk wholesale services misses the point. Resellers act in *combination* with the smaller facilities-based IXCs to provide a powerful competitive check on the likes of AT&T, MCI, and Sprint. Aside from the considerations mentioned above, one cannot dismiss the competitive significance of the regional and niche facilities-based carriers precisely because they can use resale to complete their

networks without placing themselves at a noticeable competitive disadvantage relative to national facilities-based carriers (discounting prices within region, and passing on wholesale prices out of region). Regional carriers can also make use of resale while growing incrementally into national facilities-based carriers.

In our first affidavit, we explained that Hausman has been completely inconsistent with respect to this point, on the one hand dismissing the competitive significance of all IXCs except carriers with nationwide facilities, while at the same time arguing that the RBOCs would have an important competitive impact in long distance, even though he expects them to complete their networks by reselling capacity out of region (see p. 148 of our first report, and especially the citation therein to Hausman's first affidavit, pp. 22-23). Notably, in his reply affidavit, Hausman has simply ignored this fatal contradiction.

(2) The characteristics of buyers. In our first report (p. 132), we pointed out that "[t]he market for bulk wholesale long distance services is characterized by large, highly price-sensitive, sophisticated buyers, who negotiate terms directly with the interexchange carriers." This characterization is unchallenged. If necessary, the largest wholesale customers can create their own facilities, or sponsor limited facilities-based entry through long-term agreements.

Resale is important in this context as well, because it undermines any significant price differential that is not related to costs. Significant and systematic price discrimination between wholesale customers would create sizable profit opportunities and powerful incentives to engage in arbitrage activities. Resellers can also effectively aggregate the buying power of smaller wholesale customers, thereby achieving the same bargaining power as much larger customers. Thus, through resale, the benefits enjoyed by large, sophisticated, and highly price-sensitive buyers are spread throughout the wholesale market.

(3) Capacity. As noted in our first report (p. 131), AT&T owns slightly less than 40% of existing long distance transmission capacity. This statistic is unchallenged. Both MCI and Sprint account for more than 21% of the industry's fiber capacity (as measured by fiber system route-miles), and WilTel accounts

for nearly 10%.<sup>65</sup> Both the Department of Justice Merger Guidelines and RBOC affiant Woroch (reply affidavit, p. 14) recognize that capacity may be the most meaningful basis for calculating market shares. In addition, the RBOC affiants concede that AT&T's competitors have the ready capacity to serve all of AT&T's business in the event AT&T fails to please its customers with competitive pricing and quality service (see McCormick, p. 4, or Hausman reply affidavit, p. 3). Despite Hausman's apparent claims to the contrary, it is generally recognized by experts in the field of industrial behavior and antitrust policy that conditions of excess capacity are conducive to intense competitive among existing firms. In particular, the existence of unused capacity creates powerful incentives for firms to steal business by undercutting the prices of their rivals.

(4) The observability of price concessions. As we explained in our first report, the IXC's cannot easily monitor each others' wholesale price moves. In particular, Tariff 12 provides considerable flexibility to negotiate price on a customer-by-customer basis, and, according to one RBOC affiant, conveys ambiguous information (see our first report, pp. 156-157). Thus, any form of tacit collusion among the sellers of bulk wholesale services is highly improbable. Far from challenging this point, RBOC affiant MacAvoy actually concedes it (p. 25): "Some services are subject to less stringent tariff reporting requirements, so that carriers find it more difficult to monitor each others' prices and offerings of those services. Contract service offerings to large buyers are an example."

Thus, the bulk wholesale long distance market is characterized by a large number of viable, aggressive, growth-oriented vendors competing in a state of excess capacity, in an environment where it is difficult to observe each others' price quotes for the block business of large, sophisticated, price-sensitive buyers. The RBOC's most recent submissions contain essentially no substantive rebuttal to this characterization, aside from the repeated assertion that there are only a handful of national facilities-based carriers. Indeed, several key characteristics of wholesale markets are explicitly conceded. Thus, we

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<sup>65</sup>"Fiber Deployment Update 1994," p. 7 (Table 1).

conclude that, even if entry into this industry was completely blockaded, conditions are highly favorable to an intensely competitive outcome.

**c. The overall impact of potential and actual competition**

*Conclusion #39: Existing IXCs do not have significant market power over bulk wholesale long distance services.*

Bulk wholesale long distance services are supplied under conditions of potential and actual competition that are inconsistent with the exercise of significant market power. Moreover, signs of market power are entirely absent. AT&T's market share has fallen sharply during the post-Decree period, plummeting from 74% to 49% between 1986 and the end of 1989 (see our first report, p. 132). Also, as we have mentioned, AT&T's share of long distance transmission capacity has dropped to 40%. These figures are unchallenged. Moreover, the RBOC affiants do not deny that the FCC has already considered this issue, evaluated evidence on market outcomes, and concluded that there is "robust competition" sufficient to "inhibit [AT&T] from charging excessive rates" in the market for bulk wholesale services (see p. 133 of our first report, and the citations therein).

Even among RBOC affiants, MacAvoy is essentially alone in characterizing Basket 3 services as non-competitive. Hausman's analysis of market outcomes focuses exclusively on Basket 1 services. Taylor explicitly contradicted MacAvoy's position in his first affidavit (p. 2), arguing that allegations of insufficient competition are narrowly circumscribed: "[I]t is certainly the case that price competition has indeed been vigorous in certain market segments as MCI and Sprint have fought for customers and AT&T has reciprocated in efforts to retain its market share."

Without offering any further arguments or rebuttal concerning competitive conditions in the bulk wholesale market, MacAvoy simply asserts that our conclusions must be rejected on the grounds that Basket 3 margins are high and rising (p. 19). We will consider MacAvoy's "evidence" in section B, below. For the moment, we simply note that any such data must be evaluated in the light of our virtually

unrebutted characterization of the Basket 3 marketplace. This should create a strong presumption in favor of explanations that reconcile MacAvoy's findings with the existence of vigorous competition.

## 2. Retail long distance

### a. Barriers to entry

*Conclusion #40: Barriers to entry into retail long distance (Basket 1) are modest. Through the workings of the resale market, Basket 1 services inherit the competitive characteristics of Basket 3 services.*

In our first report (pp. 134-135), we explained that

"an entrant into retail long distance does not need to construct or acquire any facilities. Rather, the entrant can piece together a network by leasing unused capacity from facilities-based carriers. Entry in this form requires neither substantial lead time nor significant up-front investments. Consequently, the potential sunk costs of entry are almost completely eliminated... It follows that, if Basket 3 services are competitive -- which they are -- barriers to entry in Basket 1 services are necessarily absent. Since competitive prices in bulk wholesale services closely mirror the costs of providing those services, non-facilities based entrants into Basket 1 services do not suffer from any significant economic handicap. Thus, economic logic inevitably implies that Basket 1 services inherit the competitive characteristics of Basket 3 services."

The final line of this passage is worth emphasizing. We are not arguing that the existence of a competitive resale segment necessarily renders Basket 1 competitive. Rather, we are arguing that competition in resale *combined* with competition in Basket 3 necessarily implies competition in Basket 1. For this reason, a thorough analysis of conditions in the market for bulk wholesale services is logically prior to an analysis of conditions in the market for retail services.

In their reply affidavits, both MacAvoy and Hausman mention this argument, but their criticisms are entirely without merit.

MacAvoy's first criticism is that "WATS is not competitive" (p. 19). This conclusion is based entirely on a transparently specious analysis of price-cost margins, which we debunked in our first report, and revisit below.



Second, MacAvoy suggests (pp. 20-21) that, according to our reasoning,

"resellers of automobiles purchased in bulk at discount prices, such as rental car agencies, provide meaningful competition to automobile manufacturers in the sale of cars and trucks. If General Motors and Ford proposed to merge, would Professors Bernheim and Willig be persuaded that the merger would not raise automobile prices by the claim that reselling of car services by Hertz would provide meaningful competition to GM's wholesale sales of cars to dealers?... According to the argument of B&W, any proposed merger would have to be approved if the merging parties offered to sublease enough of their facilities to resellers."

This passage is remarkable for MacAvoy's complete and utter failure to comprehend our argument at even the most superficial level. As should be evident to even the most casual of reader of our first report, at least two features of long distance markets are central to our analysis: first, that the wholesale market is competitive, and second, that there are no regulatory or contractual restrictions that limit the scope of resale.

The importance of the first condition is obvious. The issue here is not whether retail markets are always competitive in the presence of resale. Rather, it is whether, in the presence of competitive, low-cost resale, market power can exist in the retail market if it does not also exist in the wholesale market. To determine whether the argument is applicable in the context of the automobile market, one would first have to determine whether the wholesale automobile market is competitive. Since MacAvoy has not made this determination, he cannot logically claim that our analysis is applicable in that context.

MacAvoy's hypothetical discussion of the GM/Ford merger demonstrates quite clearly that he has not understood this first condition. A merger between GM and Ford might well reduce the level of wholesale competition. Subsequent to the merger, the retail market would continue to inherit the competitive properties of the wholesale market (assuming counterfactually that there were no limitations on resale). Thus, if the merger harmed competition in the wholesale market, it would also harm competition in the retail market. Similarly, one might be concerned about a hypothetical merger between AT&T and MCI, on the grounds that this might conceivably affect the intensity of wholesale competition, and hence the intensity of retail competition; however, that is not the issue here.

The importance of the second condition should also be obvious. Even with a competitive wholesale market, the retail market might remain non-competitive if resale was hindered by regulation, or by contracts. If manufacturers have market power in wholesale markets, they may well attempt to prevent resale contractually, in order to preserve their ability to price discriminate optimally across wholesale segments. The pre-divestiture history of telecommunications in the United States is replete with examples of this principle -- the old Bell system opposed resale in regulatory venues, and attempted to preclude it through contracts. However, far from preventing resale, regulation now protects it.

To establish whether our analysis is applicable in the context of automobiles, one would therefore have to determine whether resale is artificially restricted. Had MacAvoy bothered to investigate the factual basis for his example, he would have discovered that auto manufacturers have moved decisively and effectively to preempt competition from resellers. Contracts with rental companies typically preclude the latter from reselling cars to the public for a fixed period of time following acquisition. Indeed, in the past, auto manufacturers have lengthened this period precisely because the availability of "nearly new" cars cut into new car sales.<sup>66</sup> Manufacturers have also imposed restrictions on wholesale auctions, insisting that certain cars be sold back to dealerships for the particular brands being auctioned.<sup>67</sup> In many cases, auto makers have controlled the activities of rental car companies by purchasing them outright.<sup>68</sup> The restrictions on resale imposed by manufacturers have even resulted in an investigation by the Department of Justice.<sup>69</sup> Thus, far from proving MacAvoy's point, the example of the auto industry demonstrates the competitive power of resale by illustrating just how far auto manufacturers have been willing to go to

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<sup>66</sup>"Prices Take Off For Hot-Selling Good Used Cars." *Wall Street Journal*, October 18, 1993, p. B1.

<sup>67</sup>"Dealers' Pricing of Autos is Focus of U.S. Inquiry," *Wall Street Journal*, May 11, 1995, p. B4.

<sup>68</sup>Past and current examples of ownership or part-ownership of rental car companies by car manufacturers include Budget (Ford), Hertz (Ford), Dollar (Chrysler), Thrifty (Chrysler), Snappy (Chrysler), and National (GM).

<sup>69</sup>"Dealers' Pricing of Autos is Focus of U.S. Inquiry," *Wall Street Journal*, May 11, 1995, p. B4.

control it.

MacAvoy's third criticism of our argument is the by-now-familiar assertion that "ownership of the capital facilities required for service constitutes the source of market power" (p. 21). We have already explained the sense in which this argument is correct, and the senses in which it is incorrect. Because they do not control their own facilities, resellers do not independently discipline the overall level of prices in the wholesale market. However, in combination with smaller facilities-based carriers, resellers can impose significant wholesale pricing discipline. And, to the extent the wholesale market is competitive, resellers can impose effective pricing discipline on the retail market without any control over facilities. Under these circumstances, a reseller that enters the retail market is not at the mercy of the facilities-based IXC's, or at a disadvantage because it cannot directly control its own costs. Wholesale competition both disciplines the IXC's and controls the reseller's facilities costs for it. Thus, MacAvoy's assertion, applied so broadly, is simply illogical.

MacAvoy's fourth criticism of our analysis is that, if we are correct, then "resellers should have gained large market shares at the expense of facilities-based carriers" (p. 21). This is nonsense. A failure to gain market share is entirely consistent with the view that the potential for competition from resellers is sufficient, in and of itself, to impose retail pricing discipline.<sup>70</sup> This principle is certainly recognized by other RBOC affiliates, such as Spulber, who incorrectly accuse us of relying exclusively on market share to infer the competitive significance of potential entry in the context of local services. MacAvoy implicitly concedes our point when he writes (p. 26) that facilities-based carriers respond to the threat of competition

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<sup>70</sup>To put it slightly differently, MacAvoy expects to see a large increase in reseller market share only because he proceeds from the premise that the market outcome is not competitive in the first place. In other words, he assumes his conclusion. It is also worth noting that an increase in market share from zero to fourteen percent – MacAvoy's numbers – hardly demonstrates that resellers have been ineffective at capturing market share from the facilities-based IXC's.

from resellers by reducing discounted MTS prices relative to WATS prices. Thus, resellers have failed to gain a larger share of the market simply because the facilities-based IXC's have been charging markups over wholesale rates that are reflective of differences in costs

Hausman also comments briefly on the proposition that Basket 1 services inherit the competitive properties of Basket 3 services. Unlike MacAvoy, he makes no attempt to rebut the underlying premises or economic logic of our analysis. Instead, he simply asserts that our argument "collapses on actual market evidence" because resellers have allegedly failed to capture significant market share, or to undermine "lock-step" pricing (pp. 4-5). As we have just explained, our analysis does not generate any prediction concerning the growth of resellers' market shares, and therefore can neither be proven nor disproved on the basis of such data. We also debunked Hausman's "evidence" on lock-step pricing in our first report, and Hausman's reply affidavit falls far short of a coherent response to our criticisms. We will revisit the issue of lock-step pricing in detail in section B, below. For the time being, we simply note that, in the absence of any substantive reason to dispute our analysis of competitive pressures in Basket 1 services, there should be a strong presumption in favor of explanations for Hausman's evidence that do not require one to assume the existence of significant market power (such as the explanations provided in our first report).

The latest affidavit by Taylor and Zona also introduces the new claim that the need to advertise "on national television" creates a barrier to entry (p. 38). Taylor and Zona's reasoning is not at all specific to telecommunications, and leads to the absurd conclusion that barriers to entry are insurmountable in all industries where firms advertise on national television. Although they offer no explanation of their position (other than to cite a well-known textbook for the proposition that, under some conditions, advertising might function as a barrier to entry), their claim is presumably predicated on two assumptions: that national television advertising is necessary, and that it involves significant sunk costs. With respect to the first premise, nothing prevents a regional carrier from using advertisements targeted at customers who

originate calls within its region. With respect to the second premise, advertising is divisible -- a carrier can undertake it at any level, and terminate it at any time. Due to the fact that advertising in long distance emphasizes discounts and promotions (see below), and in light of the frequency with which long distance carriers alter promotions and discounts (also discussed below), the "half life" of advertising in this industry is relatively short. Consequently, a relatively small portion of the past advertising expenditures of existing IXC's can properly be regarded as indicative of sunk costs of entry. Overall, there is certainly nothing to suggest that retail long distance competition is particularly susceptible to barriers arising from the pattern of advertising.

#### **b. Factors affecting competition among existing firms**

In our first report, we explained that, for retail long distance services, competition is distorted by regulation. Because of the structure of the price cap system applied to AT&T, the manifestations of competition are necessarily different than in non-regulated industries. To judge competition in long distance by the yardsticks that one would apply to unregulated industries is therefore inappropriate. Rather, one must reason out the implications of competition within the existing regulatory regime, and then measure these implications against the facts.

#### **i. Market segmentation and regulation**

***Conclusion #41:** Regulation suppresses the manifestations of competition for long distance customers with the lowest calling volumes (roughly, those with monthly bills under \$10), but does not suppress competition for higher volume customers. Thus, the degree of competition in long distance service must be judged from market outcomes in the higher volume market segments.*

In our first report (pp. 135-139), we explained that any analysis of competition under existing forms of regulation must account for the following two factors. First, there are significant non-volume related costs associated with serving each customer. These costs include billing, collections, fraud, customer service, and a required contribution (per presubscribed customer) to the Universal Service/Lifeline Assistance Fund. For this reason, the average cost per minute of service for low volume

customers is significantly higher than the average cost per minute for high volume customers. Under an unregulated competitive outcome, one would therefore expect to see higher volume customers paying lower unit prices. Second, regulatory pressures and the details of price cap regulations have held basic rates below competitive levels for the lowest volume customers, but not for higher volume customers. This state of affairs traces its roots to the original price caps, which were set using service rates that had been held artificially low to subsidize low-volume residential customers, and it has been perpetuated by overallocating switched access costs to Baskets 2 and 3. The combination of these two factors suppresses the manifestations of competition for the lowest volume customers, while providing latitude to compete for high volume customers. Thus, the intensity of competition among IXC's must be judged from market outcomes in the higher volume segments.

In their reply affidavits, MacAvoy and Taylor/Zona ignore this analysis altogether. Hausman responds in two ways. First, he asserts repeatedly (p. 12, footnote 29, and p. 13) that our claims are based on no data.<sup>71</sup> This is wrong. In our first report, we provided citations to two sources containing relevant data.<sup>72</sup> As noted in one of these sources, "AT&T pays the Bell Operating Companies between \$.33 and \$.88 per customer per month to render a bill even if only one call is made... All long distance carriers must contribute roughly \$.52 per presubscribed customer per month to the Universal Service/Lifeline Assistance Fund (USF), regardless of whether the presubscribed customer makes any calls."<sup>73</sup> Thus, these two items alone can account for non-volume-related costs well in excess of one dollar

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<sup>71</sup>As an objection to the principle enunciated in our first report, this claim is clearly disingenuous. Basic rates do not include any fixed, non-volume-related fees. To the extent the provision of service to an individual customer entails any fixed cost, even Hausman must surely concede that IXC's necessarily lose money on customers with sufficiently low calling volumes. Of necessity, AT&T cannot recover its costs on the numerous customers who make no calls in a given month.

<sup>72</sup>Peter Pitsch, "A Brief History of Competition in the Long Distance Communications Market," August 1, 1994, pp. 19-21, and letter from Charles L. Ward, Regulatory Director, Federal Government Affairs, AT&T, to Dr. Michael Katz, Chief Economist, Office of Plans and Policy, Federal Communications Commission, April 20, 1994.

<sup>73</sup>Pitsch, op. cit., pp. 16-17.

per account. Other items, such as fraud and the costs of creating a new account, would take this figure even higher. In addition, long distance carriers must cover a variety of account-specific costs that bear some relation to volume (e.g. collections, customer service, and accounting), as well as costs that are roughly proportional to volume (primarily access charges and transmission costs). Thus, customers who pay basic rates must make at least several dollars' worth of long distance calls before they even begin to cover the incremental fixed costs associated with their accounts.

Hausman's second criticism of our argument is that it "totally ignores the fact that the BOCs want to enter the market to provide interLATA long distance service" (p. 12). Had Hausman bothered to read the affidavits of his fellow RBOC witnesses, he would have realized that this argument has already been made by Perloff and Karp. He might also have noticed that, in our original report, we labeled this argument an "obvious non sequitur," on the grounds that "[t]he RBOCs' desire to enter can equally well arise from the potential to leverage market power and/or misallocate costs, even if prices are currently competitive" (p. 169). Hausman simply ignores the preexisting discourse on this topic.

Hausman also falls into error on this point because he incorrectly equates our position with the claim that "Basket I prices are set 'below competitive levels'" (p. 12). On the contrary, we emphasize that long distance markets are segmented (so that there is no single long distance price), and we establish that basic rates are set below competitive levels only for low volume customers. Since Hausman ignores market segmentation, he also misses the obvious point that the RBOCs may wish to enter the long distance market simply to engage in cream-skimming, while counting on the incumbency of existing IXCs to protect them from the costs of serving the low-volume segment.<sup>74</sup>

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<sup>74</sup>In this same context, Hausman also insinuates that the RBOCs would have lower long distance costs than existing IXCs (pp. 12-13). He intends this as an argument in favor of lifting the interLATA ban, but fails to realize that it undermines his position in the current context: if he is right, then the RBOCs' willingness to enter would not indicate that the existing IXCs are pricing above their own costs. At the same time, the benefits of lower costs would not necessarily outweigh the harms from cost shifting and market power leveraging. There is, however, no evidence that the RBOCs do have lower costs. This conclusion certainly does not follow from Hausman's claim (p. 13) that the RBOCs' already bear the costs of serving low volume customers (billing, collections, fraud, and customer

Thus, none of the RBOCs' witnesses have provided any coherent objection to our conclusion that regulation suppresses the manifestations of competition for the lowest volume customers, but does not suppress competition for high volume customers. For this reason, inferences concerning the intensity of competition are valid only if they are based on data that omit the low volume market segment.

## **ii. Price dynamics**

***Conclusion #42:** For perfectly innocuous reasons, regulation creates an incentive for MCI and Sprint to match AT&T's basic rates, and may also artificially generate a leader-follower dynamic in basic rates. In the presence of the kinds of regulatory distortions that characterize the long distance market, neither pattern indicates the absence of competition or the presence of significant market power.*

In our first report (pp. 138-140), we observed that the asymmetric regulatory treatment of AT&T and the other RBOCs creates peculiar incentives. Since basic rates are set below competitive levels for low volume customers, neither MCI nor Sprint has an incentive to undercut AT&T's basic rates, lest they attract more low volume customers on which they would lose money. For the same reason, MCI and Sprint have an incentive to follow any increase in basic rates by AT&T. MCI and Sprint are also reluctant to raise basic rates absent an increase by AT&T since regulation would prevent AT&T from following. Significantly higher basic rates would undermine their reputations as low-price competitors, render them vulnerable to negative advertising, and reduce the comparability (and hence the effectiveness) of discount plans targeted at higher-volume customers. For this reason, evidence of uniformity of basic rates, or of a leader-follower relation in basic rates, does not indicate the presence of market power. Once again, the proper way to address the issue of competitiveness is to examine pricing behavior in the high volume segment, where competitive dynamics are not distorted by regulation. None of the RBOC witnesses have presented any evidence of price uniformity or leader-follower dynamics in the prices that are relevant for high volume customers, and in fact no such patterns exist (see below).

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service). For example, IXCs can currently share in the RBOC's purported economies of scope by purchasing the RBOCs' billing services, and the costs of fraud may well increase with the scope of fraud (i.e. interLATA, in addition to intraLATA and local).



Aside from Hausman's easily-refuted general comments concerning the premise that basic rates are set below competitive levels for low-volume customers (see section VI.A.2.b.i above), no RBOC witness has challenged our analysis of the manner in which regulation distorts competitive pricing dynamics. The absence of refutation is absolutely critical. As we have already noted, Hausman never challenges our analysis of competition in retail services directly (see section VI.A.2.a, above). Instead, he merely cites his "evidence" of lock-step pricing in basic rates as the primary reason to dismiss our conclusion that Basket 1 inherits the competitive properties of Basket 3 (pp. 4-5). But since Hausman has not challenged the conclusion that lock-step pricing in basic rates is completely consistent with competition (given regulatory distortions), he is left with no coherent basis for rejecting our analysis of retail services.

### **c. Assessment of competition**

#### **i. Discount activity**

*Conclusion #43: The high level of discount activity in retail long distance demonstrates that there is intense competition for callers with monthly bills over \$10.*

Our analysis of regulatory distortions implies that one can infer the presence or absence of market power in retail long distance only by examining market outcomes for customers with higher calling volumes. Competition for these customers takes the form of calling plans and promotional discounts. In our first report (pp. 141-142), we reviewed the characteristics of these plans, and concluded that (i) they entail substantial reductions in unit price, (ii) economically meaningful discounts are offered to customers with calling volumes as low as \$10 per month (so that "high volume" really isn't very high),<sup>75</sup> (iii) many existing discount plans are very simple, (iv) discounts are targeted at mass audiences, and are aggressively

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<sup>75</sup>The RBOCs cite our "concession" (that IXCs charge different prices to customers based on calling volume) side by side with an MCI statement that price discrimination is not possible unless there is some degree of market power (RBOC reply brief, p. 28). This argument reflects an elementary error in economic logic. Price uniformity is not equivalent to the absence of price discrimination. Indeed, when costs vary, the absence of price discrimination requires the absence of price uniformity. Hausman – the RBOCs' own witness – makes this same point in the context of cellular service (Hausman reply affidavit, p. 15). Our first report was quite explicit in attributing the differences in prices to differences in costs. Hence, no price discrimination (or market power) is present.

advertised, and (v) the evidence on discounts is flatly inconsistent with "lock-step" pricing or the existence of a leader-follower relation.

The high level of discount activity has continued since we submitted our first report. In response to TrueUSA, MCI introduced a revised version of Friends and Family, which guarantees discounts of at least 25%, even when calls are placed to parties outside of an individual's calling circle. Sprint has also recently introduced SprintSense, which includes a much-advertised flat rate of 10 cents per minute. In April, AT&T improved upon its TrueUSA program by introducing True Savings, which provides discounts of 25% for monthly bills between \$10 and \$49.99, and a 30% discount for bills that are \$50 or higher. This final development is particularly notable since MacAvoy ignores True Savings entirely.

AT&T, MCI, and Sprint have all adopted aggressive promotional strategies that make extensive use of mass media. MCI's advertisements have underscored the fact that the across-the-board discount is intended to simplify comparisons between AT&T's discount programs and Friends and Family. Recently, MCI has begun to offer a "proof of savings" statement as part of its Friends and Family package. Likewise, Sprint's advertisements emphasize the simplicity of SprintSense. This ubiquitous focus on simplicity and comparability should put to final rest Schmalensee's unsubstantiated assertion that discounts are complex, and targeted only at sophisticated customers (see the discussion in our first report, pp. 164-168).

MacAvoy, Hausman, and Taylor/Zona all comment on promotional discounts and calling plans. Collectively, they make three claims, each of which is either demonstrably false, irrelevant, or both.

RBOC Claim #1: Most people are not eligible to benefit from discount calling plans. For example, MacAvoy (p. 24) claims that "[m]ore than 39 million of AT&T's customers have monthly bills too low to take advantage of any discount plan." This conclusion is evidently based on an October 1994 letter to the FCC, in which an AT&T employee stated that over 60% of its customers have monthly bills for long-distance service of \$10 or less. This theme is echoed by the RBOCs' other affiants.

The fact that the lowest volume customers cannot benefit from these discounts is to be expected. As we have noted, aside from a few general and easily-dismissed comments by Hausman, the RBOC witnesses have not challenged the proposition that regulation has held basic rates below the costs of serving these customers. Consequently, the absence of discount activity targeted at those with very low calling volumes tells us nothing about the presence or absence of market power in retail long distance, and is entirely consistent with the analysis of competition presented here and in our first report.

In addition, MacAvoy and the other RBOC witnesses greatly exaggerate the economic significance of those who are ineligible for discounts, for two reasons. First, many more customers are eligible for benefits than the MacAvoy and others suggest. More recent figures supplied to us by AT&T place the fraction of AT&T's customers with average calling volumes of \$10 or less at 47%. MacAvoy's own evidence indicates that only 36% of AT&T's customers have monthly bills under \$11 (with even lower fractions for MCI and Sprint), and that nearly 50% spend more than \$25 (see p. 29). Even the 60% figure refers to the size of an average bill. Bills vary from month to month, and in any given month many customers with average bills of less than \$10 spend more than \$10. AT&T's leading discount program, True Savings, guarantees that subscribers never pay more than basic rates, even when their bills fall below \$10.<sup>76</sup> Thus, users with low average volumes can sign up without penalty, and reap the benefits of discounts when their calling volumes are higher than usual. According to AT&T, a substantial majority of its customers could benefit from some AT&T discount program in any given quarter -- a figure which Hausman acknowledges (p. 5, footnote 11). This is more than a mere theoretical possibility. According to AT&T, as of December 1994, more than 6.6 million subscribers with average bills under \$10 per month were enrolled in a discount calling plan -- and this number is rising.

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<sup>76</sup>Although MacAvoy observes (p. 31) that customers with low monthly bills would pay more than basic rates through underutilization of some calling plans, this is plainly irrelevant, since other leading calling plans (like True Savings) do not have this feature.

Second, the economic significance of eligibility restrictions is best measured by calling volume, rather than by the number of customers. The RBOCs' witnesses implicitly concede this point, since they measure long distance market shares by revenues, rather than by numbers of customers. By focusing on the number of customers in this context, rather than on calling volume, the RBOCs' witnesses have greatly exaggerated the economic significance of low-volume customers. According to AT&T's figures, more than half of those with average bills under \$10 actually spend less than \$3 per month on long distance. Those with average calling volumes in excess of \$10 per month account for 93 % of AT&T's long distance revenues.<sup>77</sup> Customers who may be ineligible for discounts therefore account for a very small fraction of the retail long distance market. The notion that AT&T, MCI, and Sprint would tacitly collude to extract profits from customers who represent, at most, 7 % of revenues, while competing vigorously for customers representing at least 93 % of revenues is simply absurd.

RBOC Claim #2: Whether eligible or not, most customers do not benefit from promotional discounts or calling plans. Hausman and Taylor/Zona refer to a Bell Atlantic-sponsored study by PNR and Associates, which concluded that only 36 % of AT&T residential long distance calls were made under a discount plan during the Spring and Summer of 1994, and that only 33 % of AT&T's customers received discounts (Hausman, p. 5. and Taylor and Zona, p. 24).

The Bell Atlantic/PNR study was not available to us for examination, so we cannot comment on its methodology or scientific merit. However, even a moment's reflection reveals that the conclusions of the study are implausible. All witnesses on both sides of this issue agree that discounts tend to be focused on customers with larger calling volumes. For this reason, discounts should apply to a much larger fraction

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<sup>77</sup>MacAvoy's own data, based on the LINK study, confirm this figure. Using his table 1 (p. 29), one can approximate total revenue within each "Monthly Bill" category by taking the midpoint of the relevant range. Using this to weight the fraction of customers, one can then obtain the corresponding fraction of revenues. These figures imply that only 5.9 % of AT&T's revenues come from customers with monthly bills less than \$11, which is very similar to AT&T's 7 % figure. The corresponding figures are 4.1 % for MCI, and 3.6 % for Sprint. MacAvoy's data also imply that 81.8 % of AT&T's revenues come from those with monthly bills over \$25; the corresponding numbers are 87.4 % for MCI, and 86.6 % for Sprint.

of calling volume than of customers. Yet the difference in the Bell Atlantic/PNR study -- 36% vs. 33% -- is hardly noticeable.<sup>78</sup> For this finding to be correct, the probability of enrollment would have to bear little relation to calling volume, a hypothesis which all parties reject on other grounds.

There is, however, no reason to speculate. Rather than rely on limited survey data of questionable reliability, one can instead measure enrollment based on IXC records. For AT&T, the fractions of calling volume and subscribers covered by discount plans are high and rising. The fraction of total long distance minutes covered by a plan increased from 51.5% in May 1994 to 58.4% in December 1994 (an increase of more than 13%, or 6.9 percentage points, in seven months), and jumped again to 61.4% in March 1995 (an increase of more than 19%, or 9.9 percentage points, over ten months). Similarly, the fraction of customers covered leapt from 24.8% in May 1994 to 32.5% in December 1994 (an increase of more than 31%, or 7.7 percentage points, in seven months), and finished at 36.7% in March 1995 (an increase of nearly 48%, or 11.9 percentage points, over ten months). There is no indication that either trend is slowing down. Naturally, participation is particularly common among those with high calling volumes. Of those with bills of \$25 or more in March 1995, more than 64% were enrolled in some plan.<sup>79</sup> We suspect that rates of enrollments in discount plans are even higher for MCI and Sprint, since (as indicated by MacAvoy's data on p. 29) these companies disproportionately serve higher volume customers, and since they have attracted most of their customers from AT&T precisely because they have offered discounts.

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<sup>78</sup>Part of the problem may be that the Bell Atlantic/PNR study apparently measured the number of calls, rather than minutes. Customers with large bills may make longer calls. We doubt, however, that this completely explains the study's results. It is more likely that survey respondents simply do not know the number of long distance calls that they make in an average month, and report this number inaccurately.

<sup>79</sup>Since this group includes individuals with average bills of less than \$25 (who just happened to have large bills in March 1995), it understates participation rates for those with high average calling volumes.

We conclude that promotional discounts and calling plans are actually used by a large fraction of users, and that these users account for a clear majority of calling volume. Moreover, rates of "up-take" on these plans (both in terms of covered minutes and callers) are growing at phenomenal rates. Assertions concerning the limited applicability of discounts are therefore flatly contradicted by the data.

RBOC Claim #3: Discounts are small. In his reply affidavit (p. 33), MacAvoy presents price indexes which purportedly demonstrate that average discounts resulting from calling plans amount to only a few percentage points. However, his calculations are extremely misleading, and severely understate the economic impact of these plans, for two reasons.

First, MacAvoy has fallen prey to the fallacy that it is proper to lump all retail long distance callers together for the purpose of calculating a single price. This ignores the fact that the market is segmented, and that one should properly expect different prices in different segments. The construction of a single price index masks potentially important and informative differences across market segments. In particular, MacAvoy's analysis obscures the importance of discounts because he improperly lumps high volume customers together with low volume customers, even though there is no reason to believe that competition should produce discounts at low volumes. This point appeared in our first report (p. 136), and is unrebutted.

Second, MacAvoy compounds his first error by constructing his indexes in a way that is absolutely guaranteed to overstate the economic importance of low volume customers. In particular, he computes a weighted average of prices across classes of consumers, using as weights the fraction of consumers that fall into each class (see his reply affidavit, p. 30). Just as in the context of RBOC claim #2 (above), shares of minutes (or revenues) measure economic significance much more accurately than shares of consumers. Had MacAvoy calculated his indexes using as weights the fraction of minutes attributable to each class of

customers, he would have placed much less weight on low volume customers (who, in his calculations, receive no discounts), and much more weight on high volume customers (who do receive significant discounts).

Even if MacAvoy corrected these errors, his methodology is still imprecise and open to challenge on a variety of other grounds.<sup>80</sup> Once again, there is no need to rely on indirect inferences. In many cases, the magnitudes of the discounts are directly evident from the structure of the programs. Try as he might, MacAvoy cannot obscure the fact that customers spending \$25 or more in any month are eligible for 25% discounts or more through AT&T's True Savings program. Certainly, his decision to ignore the existence of this plan does not make the discounts any less real. If an aggregate measure of the impact of discounts on price is desired, then a far more direct approach is to make use of the IXC's records on revenues from calling plans. For AT&T, as of December 1994, domestic undiscounted monthly revenues from calling plans amounted to \$697.4 million, while discounted monthly revenues amounted to \$596.5 million -- implying an average volume-weighted discount of nearly 15%. Similarly, international undiscounted monthly revenues from calling plans amounted to \$274.8 million, compared with \$228.9 million in discounted monthly revenues -- implying an average discount of nearly 17%. The economic significance of these discounts is indisputable.<sup>81</sup>

## **ii. Customer churn**

***Conclusion #44: The high rate of customer churn in retail long distance reflects vigorous competition.***

In our first report, we pointed out (pp. 140-141) that evidence of rapid customer churn strongly

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<sup>80</sup>For example, as we have already noted, millions of customers with average bills under \$10 per month do subscribe to discount plans, and benefit from these plans in the months where their bills do exceed \$10, contrary to MacAvoy's assumption.

<sup>81</sup>To further place the magnitude of these discounts in context, one should recall that more than 60% (93%) of revenues are earned from customers who are on (eligible for) calling plans. In addition, the fraction of revenues earned from customers who are on calling plans has been growing at a phenomenal rate.

supports the inference that retail markets are competitive, and flatly contradicts the unsubstantiated assertion that the major IXC's are exercising mutual forbearance. This conclusion is challenged in the reply affidavits of Hausman and Taylor/Zona.

Hausman asserts (p. 6) that churn cannot result from price competition, because "the 3 major long distance companies charge essentially the same rates." However, his only support for this erroneous claim is a figure that documents some similarity in basic rates. Discount programs often differ substantially across IXC's -- a fact which Hausman has not challenged

Hausman also asserts (p. 6) that churn has resulted from "advertising and promotions," as distinct from price competition. He draws an amusing analogy to the cigarette industry, where, he alleges, high rates of customer switching resulted from non-price promotional strategies. Anyone familiar with the contents of advertisements in these two industries should immediately recognize that the analogy is completely misplaced. Contrary to Hausman's apparent belief, AT&T does not promote its services by claiming, for example, that the True Savings program will enhance a customer's sex appeal. On the contrary, advertisements in long distance focus on prices, emphasize discounts, and make explicit comparisons to the deals offered by competitors. To distinguish this from price competition is sheer nonsense. The link between churn and discount activity is therefore undeniable. Indeed, an article appearing in the *Wall Street Journal* after the introduction of AT&T's TrueUSA program noted that<sup>82</sup>

"[MCI's] growth has slowed significantly this year, mainly due to a withering marketing campaign by AT&T to take back consumer and business customers it has lost to MCI. AT&T ads, which trumpet discount plans and pointedly challenge the veracity of MCI's claims, are luring an additional 100,000 newcomers to sign up with AT&T each month."

According to Taylor and Zona (p. 38), "[h]igh rates of churn... indicate that advertising is not informing customers." This is ludicrous. Taylor and Zona themselves concede that their argument is inapplicable if "the set of alternatives is constantly changing" (p. 38). Yet they ignore the fact that

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<sup>82</sup>"MCI Picks Price to Head Long-Distance. Countering AT&T's Marketing Assault," *Wall Street Journal*, November 23, 1994, p. B6.



alternatives do change constantly, precisely because the IXC's frequently alter existing discount plans, or introduce new discount plans.<sup>83</sup> In addition, a customer may switch carriers because of a change in his or her own circumstances (e.g. expected calling volume falls, making a different discount plan more desirable). Since customers rarely incur significant costs when switching long distance carriers, even repeated switching is completely rational. One can also evaluate Taylor and Zona's hypothesis more directly by examining the contents of advertisements to determine whether they are informative, or, as Taylor and Zona claim, emphasize artificial distinctions. As we have already mentioned here and in our first report, advertisements not only emphasize price, but also help customers to compare prices across plans, thereby reducing (rather than increasing) perceived differentiation.

## **B. CONTRARY VIEWPOINTS**

Specific claims about the absence of competition in long distance are based on flawed economic reasoning and misinterpretations of factual patterns. Often, these misinterpretations can be traced to a failure to appreciate the implications of competition in the presence of regulatory distortions. Evidence presented by the RBOCs' affiants fall into several major categories, each of which is considered below.

### **1. Market conditions**

*Conclusion #45: RBOC affiant MacAvoy has erred in asserting that conditions in long distance are conducive to tacit collusion.*

In his original affidavit, MacAvoy argued that conditions in the long distance industry are conducive to tacit collusion. This material is central to his position, since he claims to test the implications of his characterization through an examination of data on prices. If he is incorrect about the nature of market conditions, then the conceptual foundation of his empirical work is undermined, and alternative explanations for the patterns that he finds must be given greater credence.

MacAvoy's claims concerning market conditions fall into six categories.

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<sup>83</sup>See Pitsch, op. cit., pp. 30-35.